

AMATEUR RADIO

JULY
1950

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

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EDITORIAL



MAGAZINE

Occasionally I take the opportunity to report to members the difficulties which arise in the production of your magazine.

Since the July 1949 issue, except for the past few months, every member throughout Australia received his or her magazine within a few days of the first of each month. This has been possible only by the prompt arrival of all Divisional notes by the 8th of each month.

I don't know if the strain has been too much for some correspondents for over the past few months, notes have been dribbling in up to ten days after the 8th. The nett result has been late delivery of the magazine.

I have many times stressed the fact that any notes arriving after the deadline will not be considered for publication, and if I had strictly enforced this policy there would, over the past few months, have been a number of offended correspondents as well as a large number of members to whom the correspondent is responsible.

I am quite well aware that the person who is held responsible, by the general member for the non appearance of notes, or the late delivery of the magazine, is the undersigned. Nevertheless, I believe I can take it and for the future, let it be plainly understood that Divisional and zone notes MUST be in my hands not later than the 8th of each month.

The 8th of each month has been agreed upon as a deadline, but there is no reason why notes if complete cannot be forwarded by the 1st or the 3rd as the case may be—the earlier they arrive the easier the task of producing the magazine becomes. Your Magazine Committee is an energetic and hard working Committee and anything which makes their task easier is very much appreciated.

To those of you who are always on time with your contributions, I offer my sincere thanks; to those who are perhaps a little slow please see that your notes are on time.

THOMAS D. HOGAN,
Editor.

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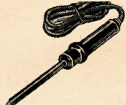


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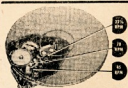


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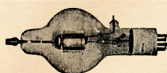
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DRIVING THE ZERO BIAS 807s

BY J. C. DUNCAN,* VK3VZ

Nowdays it is quite common to have a contact on plane and hear "I am using 807s in zero bias as modulators OM," and find another convert to using our "Maid of all work," the 807, in a new job.

This is quite understandable, for used in zero bias, the 807 is completely tamed, and parasites are non-existent.

For those who have not got access to the original article, it may be as well to run briefly over the circuit, shown at "A" in Fig. 1.

The centre tap of the driver transformer is grounded, and the ends of the secondary windings connected to the screens of the 807s. A 20,000 ohm resistor is connected between the screen and grid as shown, and the plates of the 807s are fed to the conventional modulation transformer. The cathodes of both 807s are grounded.

With this circuit, the driver transformer was the catch, as it had to match the driver tube to the grids of the 807s which had an almost constant impedance of 14,200 ohms, grid to grid. In addition, to obtain 120 watts of audio it was necessary to use a driver which would supply 5 watts of drive to the grids; this meant a pair of 2A3s or equivalent, after allowing for transformer losses, etc.

In our applications, 120 watts is not required, and therefore the most popular arrangement has been to use a 6L6G as driver, which allows us to obtain at least 75 watts of audio, and for lower audio requirements, a 6V6 or 6F6 was adequate. Obviously then, with zero bias 807s, the harder we drive them, the more we get out, up to their limit of 120 watts, provided of course, that our plate voltage, regulation, and impedance match are correct.

Ahead of the driver, we need the usual voltage stages to lift the gain from the microphone to give a voltage which will enable the driver to operate at its correct output. With a crystal microphone, this is about two stages, or with a carbon microphone, one stage would be adequate.

So much for the circuit as originally described, and now to the circuit described in February, 1950, "CQ," shown in "B" Fig. 1.

T1 is a conventional plate-to-push-pull input transformer, such as the type used to feed a 6C5 to a pair of 2A3s; in other words, an ordinary voltage transformer (most of us have a transformer of this type lying about). The centre tap of the transformer is grounded, and the ends of the secondary fed to the grids of a 6SN7, which operates as two cathode followers. The cathodes are not grounded, but are connected as shown to the 807 screens and grids.

The plates of the cathode followers are tied together, by-passed, and supplied with 300 volts. The remainder of the circuit is the same as "A."

In August, 1948, "Amateur Radio" presented the latest circuit developed by R.C.A. for using the popular 807, as a zero bias modulator. Since then the 807 has been used in this application by many Australian Amateurs.

Here is a new method of driving the zero bias 807s which simplifies the problems associated with the original circuit.

Conventional methods of producing driving power in circuit "A" Fig. 1 would involve power consumption largely cancelling the power economy advantages of the Class B operation. Such power need be supplied to each grid only on its positive half of the cycle, however, the cathode follower driver is a natural.

Note there is no connection from the 6SN7 cathodes to ground, except through the grids and screens of the 807s. Thus the plate current flowing in the 6SN7s is equal to the grid and screen current of the 807s, and varies from less than 1 Ma. to peaks of 20 Ma. with voice modulation. Actually the total current of a 6SJ7 pre-amplifier, 6SN7 two stage resistance coupled triode amplifier, and the 6SN7 cathode follower stage totals less than 10 Ma. under static conditions. Since the driver section works on about 250 volts, its plate power as well as that of the two voltage stages is obtained from the one supply.

Actually the direct-coupled cathode followers supply approximately 10 volts of positive bias with resultant total static plate current on the 807s of 30 Ma. Of course with modulation, this

plate current increases to 80 to 150 Ma., depending on the output required.

The voltage stages required ahead of T1 are important, and it is necessary to see that sufficient voltage is supplied to the primary of T1, otherwise the power output from the 807 stage will be inadequate.

It is recommended that the minimum required from a crystal microphone would be: a 6SJ7 high gain amplifier, followed by two triode sections of a 6SN7 as resistance coupled triodes. In the writer's case the voltage stages used were:—

Pre-amplifier on operating table, 6SJ7 and 6J5 to 500 ohm line. 6SN7 as two resistance coupled amplifiers, feeding T1, cathode followers and then the 807s Class B stage. From the 500 ohm line, all other stages are in the main rack of the transmitter. With this line-up, the gain control is one-fourth on for 100% plate modulation of a 50 watt power amplifier, i.e. 25 watts of audio. The meter reading the combined plate currents of the 807s varies from a resting current of 30 Ma. to about 80 Ma. on peaks, which means that for 25 watts of audio, the 807s are simply loafing along. The plate to plate impedance was 10,200 ohms, and the plate voltage 500 volts, rather poorly regulated.

With this circuit it is claimed that 60 watts of audio can be obtained, so it should be adequate for a 100 watt carrier.

The following plate to plate impedances for the 807 Class B stage are appended for readers who have not a copy of the original article.

Case	1	2	3
Plate Volts	750	600	500
Plate to Plate Load	6650	5050	4000 ohms
Output	120	90	72 watts
Max. av. anode current (two valves)	240	240	240 Ma.

NOTE.—If the Class B stage is run at lower plate currents or voltages, the plate to plate impedance will be different. The calculations are very simple with the following method, which is accurate enough for our requirements.

In a Class B stage at any instant the grid of one tube will be driven positive and the other tube driven past cut off, and therefore in calculating impedances we need only consider one tube. As far as the one tube is concerned the primary of the output transformer is a resistance and therefore we have this plate load (R_p) and the resistance of the Class B tube in series across the power supply. We can assume that about 80% of the power supply voltage will appear across the plate load R_p as audio voltage, so if our plate supply is 500 volts, 400 volts peak of audio will appear across the plate load R_p . This gives us our voltage for calculation.

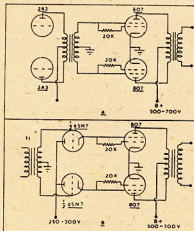


Fig. 1.

(Continued on Page 5)

* Technical Editor, 23 Parkside Avenue, Balwyn, Victoria.

SO YOU WOULD LIKE A.C.?

BY R. H. ATKINSON,* VK6WZ

Any war naturally brings in its wake movements of population and the last war was no exception. The effect the writer has observed in his own State must have been duplicated many times over in other parts of Australia, that is, Hams who pre-war lived in the City have moved to country towns, others who used to live in rural areas now have a City QTH on their cards. This is good for the country as it prevents stagnation of population—but it's not so good for the Ham who, like the writer, "cut his teeth" on a.c. mains and now finds himself cursed with d.c.

He finds himself bitterly reflecting that de-centralisation of population is something for the idealists to prattle about, but something with very obvious snags when applied in practice to Ham Radio. The town of Geraldton, W.A., has a three-wire 440 volt d.c. supply with an earthed neutral, giving (sometimes) 220 volts between the outside leg and neutral, polarity with respect to earth depending on which side of the system one's house is connected to.

You may say, "Ahi! 440 volts of d.c.—no trannies, no rectifiers, a minimum of filter—what's the man beefing about?" But there's a catch to it. Pre-war, a well-known VK6, now living in the metropolitan area, resided in Geraldton and in the course of moving from one dwelling to another, had the local authorities connect the 440 volt mains up each time. The only additional accessory was one six-volt battery for heater supply, and he was set for plenty of DX.

Perhaps the municipal authorities have "had" Hams—or maybe their excuse of shortages of materials is genuine—suffice it to say that none of Geraldton's post-war batch of Hams can get the 440 volt supply. And, in the case of 6EL and the writer, the two hundred and twenty stalwart volts, which leave the power house, lose from thirty to fifty-five of their brethren before reaching our shacks!

6EL (who should be coaxed into speaking of his own experience at a later date!) turned to the vibratory inverter method developed by Eric Cornelius (VK6EC) and got away from d.c. mains and their snags to the extent of being able to run the rig and a c.r.o. from a.c. The writer tackled the problem from the rotary converter angle and found it not without disadvantages, but nevertheless possessed of sufficient good points to be installed permanently till such time as the Geraldton mains are changed from d.c. to a.c. some time this year.

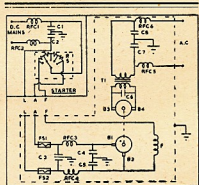
To any Ham living in a country town serviced by d.c. mains, I would sum up the position thus:—

- (1) Is there any immediate possibility of conversion of town supply to a.c.?

We Hams who complain when our A.C. Mains Voltage drops a little should feel happier with our lot, when reading this article on the problems confronting the D.C. user and the eventual solution by VK6WZ.

- (2) Have you a small backyard with no opportunities for putting up high-gain arrays?
- (3) Is battery charging expensive to you?

If you can answer "No" to all the above, then stick to d.c., put 807s in push-pull in your final and go to it. If, on the other hand, the answer is "Yes" and, additionally, you can scrounge a rotary converter (or buy one if you're affluent), then I'd suggest you manufacture your own alternating current on the premises.



Rotary Converter Circuit with Switchgear.

The rotary starter's metal frame and cover are earthed but in the above circuit the no-volt release and overload trip are not shown. Dotted lines around converter represent steel case. Motor frame is, of course, also earthed.

- C1, C2—0.1 uF, 600 volt.
- C3—Dual suppression condenser, 0.5 uF, each side of earth.
- C4, C5—2 uF, 400 volt rating.
- C6—4 uF, 600 volt rating.
- C7, C8—2 uF, 600 volt rating.
- RFC1, RFC2—125 turns of 18 s.w.g. on 2 1/2" former.
- RFC3, RFC4, RFC5, RFC6—50 turns of 18 s.w.g. on 2 1/2" former.
- R.S.—Rotary starter switch.
- FS1, FS2—10 amp. fuses.
- B1, B2—D.C. brushes.
- B3, B4—A.C. brushes.
- F—Converter field.
- T1—Step-up transformer.

Letters L, F, and A stand for line, field and armature.

Choose as large a converter as your purse and your electric power account will stand. A small job, barely adequate for the demands of your equipment will pay off in terms of bad regulation, over-heating and kindred troubles. The bad regulation will be particularly acute when working c.w. Further, if you can, get hold of a machine made "from the frame up" for the purpose of power conversion—not a re-built electric motor.

A double-volt converter is best of all and keeps your d.c. and a.c. circuits isolated. At VK6WZ a single-volt machine is in use (not from choice) and it is necessary to use transformers between the slip rings and load for two reasons. Firstly, the a.c. voltage available is always less than the maximum d.c. voltage applied to the armature and, secondly, it is essential to isolate the load from the d.c. mains. With this machine running on d.c. mains, which measure about 170 to 185 volts, the slip ring a.c. potential is in the region of 115 to 130 volts.

Careful installation is essential if the system is to work with minimum interference to your own and neighbouring receivers. D.c. supply leads should be in earthed lead-covered cable. Plenty of filter should be applied to both d.c. and a.c. leads and the machine should be housed in a well-ventilated steel case.

If possible, get it away from the shack as far as practicable. The 6WZ converter is located on the back verandah, just outside the shack and no more than ten feet, direct line, from the receiver. Hardly an ideal set-up, but nevertheless, with the suppression employed, workable.

The writer imagines that if it were possible to install the machine in the good-shed or wash-house and bury the d.c. and a.c. leads in water pipe, the arrangement would be entirely silent in the receiver, even on 28 Mc. As it is, reception on 7 and 14 Mc. is unaffected by noise while on 28 Mc., with the noise limiter on the receiver switched in, most worth-while signals can be copied OK. Indeed, on the forty metre band, unsuppressed or partly suppressed domestic appliances in homes one hundred and more yards away make more noise than the converter, whose noise anyway is such as to make no difference to any signal, phone or c.w., which is copyable without the machine running.

Here an important point must be stressed. Standing waves on the feed system of the antenna in use for receiving, play a big part in determining whether clean or noisy reception is to be obtained.

If the antenna is a dipole or beam for the band on which one is listening and the feed line is properly matched, converter noise will be at an absolute minimum. On the other hand, if you use "just a piece of wire" for a receiving antenna, or attempt to receive 28

* 150 Fitzgerald Street, Geraldton, W.A.

Mc. signals on a 7 Mc. doublet (or vice-versa) you'll be in trouble.

Earthing naturally plays an important part in any such installation. Individual cases will, of course, call for special treatment. At 6WZ a water pipe earth is used on the power point end of the d.c. lead-covered line with a heavy 7/22 connection about 15 inches long. Out on the verandah, the end of the same lead-covered is earthed again to an adjacent water pipe about five feet distant. This earth is common to the steel case, converter frame and all mid-points on hash filters, as well as the braiding on leads to the starter-switch, etc.

It has been found necessary to earth the cover of the rotary starter switch and, indeed, the procedure of earthing, one at a time, various metal parts of the system not directly connected to either d.c. or a.c. lines proved a most interesting object lesson, checking the while with the receiver running.

The circuit diagram shows all measures adopted at 6WZ to eliminate noise and although a good deal of work was involved, the results have more than justified it. The pleasure of being able to put into service one's pre-war transformers and rectifiers and of seeing the input on 7 Mc. go up from 6 watts to nearly 32 to a single 807, and that on 28 Mc. from 3 watts to a single 807 to nearly 60, to a pair of these tubes in p.p., has more than offset the bother encountered.

A few final remarks to the novice with electric machines. If your machine is new, good and well. If it is not (as in the writer's case), give it a good overhaul before even thinking about installing it. Industrial and commercial users of these machines seldom give them the care they deserve and about a pound and a half of dirt, grease and oil had to be removed from various parts of the 6WZ machine before it could be usefully employed.

Most machines have an adjustment whereby the relative position of the d.c. brushes can be altered. You'll find that the point of minimum sparking is not only the point of least noise, but also of most efficient working. It won't be the adjustment which will give the greatest armature speed, but speed means very little in this case. Spend as much time as necessary in finding this optimum point, it's about the most important thing in the whole arrangement. See that the commutator is clean and in good condition. If necessary have it skimmed and undercut by a competent electrical tradesman. Slip rings, too, should be clean and should run true.

If you still doubt that such a machine can be effectively suppressed for radio-inductive interference, let this experience convince you. The writer, after having cleaned and adjusted the machine as outlined, had it running for a test on the kitchen floor (what Ham hasn't invaded the kitchen at some time or other?) and in the same room at that time there was a standard type of broadcast portable in operation. This receiver was placed on the lid of the converter's case and, turned with the

loop antenna in the correct direction, Perth broadcast stations (300 miles distant) were played with only a trace of background noise.

VK6GA, W.A. Sub-Editor, who has seen and heard this unit in operation, has christened it 6WZ's "baby Bunnorong" and it certainly can be stated that it has put an entirely new aspect on the Ham Radio activities of its one and only "consumer."

ACCURATE FREQUENCY TRANSMISSIONS FROM VK3WI

The next Accurate Frequency Transmission will take place on Thursday evening, 27th July, 1950, on the 7 Mc. band. Details of the operating procedure and times of operation will be found on page 12 of the January, 1950, issue of this magazine.

DRIVING THE ZERO BIAS 807s

(Continued from Page 3)

Now we want the peak current. Manufacturers' characteristics give the maximum average current for two tubes (sine wave input), so to find the peak current we divide the average current by 0.636. Therefore our peak current for case 3 in the lists above is—

$$\frac{240 \text{ Ma.}}{0.636} = 377 \text{ Ma.} = 0.377 \text{ Amp.}$$

Then from $R = E \div I$ we have—
 $\frac{400}{0.377} = 1061 \text{ ohms for one tube.}$

The plate to plate load for two tubes will be four times this value or 4244 ohms, which is very close to the manufacturers' ratings (Case 3).

The audio output can be found by the simple formula $W = \frac{I \times E}{2}$ and working on peak values found we have
 $\frac{0.377 \times 400}{2} = 75 \text{ watts output.}$

Below is the case of Class B 807s to give 100% modulation of a 50 watt carrier (25 watts of audio). Example—

Supply voltage 500 volts.

Av. plate current (two tubes) = 100 Ma. = 0.1 Amp.

Then $E_{\text{peak}} = \frac{500 \times 80}{1 \times 100} = 400 \text{ volts}$
 (i.e. 80% of supply voltage).

Peak current $I_p = \frac{0.1}{0.636} = 0.152 \text{ Amp.}$

Plate impedance (one tube) = $\frac{E_p}{I_p}$
 $= \frac{400}{0.152} = 2630 \text{ ohms.}$

Then plate to plate impedance = $2630 \times 4 = 10,520 \text{ ohms,}$

and audio output = $\frac{I_p \times E_p}{2} =$

$$\frac{0.152 \times 400}{2} = 30.4 \text{ watts.}$$

CW-Phone Monitor

BY W. L. HEINRICH,* VK5HR

This is a simple monitor which is used at VK5HR for both phone and c.w.

The audio oscillator is quite straightforward, although some variation of resistor and condenser values might be necessary in order to suit varying types of audio transformers and individual tastes as to pitch.

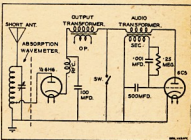


Fig. 1.

The rectifier circuit is also conventional and may be varied to include an overmodulation indicator or a percentage modulation meter.

The circuit shown in Fig. 2 may be connected directly across the existing link between p.a. and aerial coupler of any transmitter without causing any unbalance. It is best suited, however, for low power equipment when used in this manner.

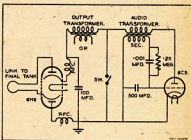


Fig. 2.

The writer's monitor draws less than 0.5 milliamp with a voltage of approximately 3 volts on the plate of the audio oscillator, so power taken from transmitter is very slight.

The purpose of the switch is quite obvious. It simply short-circuits the audio oscillator, thus allowing the monitor to be used for phone.

Output of the monitor may be wired via a relay to the output of the receiver or it can be connected to a change-over switch.

* 17 Roslind St., Kensington Gardens, South Australia.

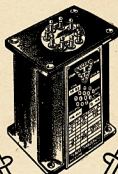
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A CASCODE CONVERTER FOR 50 Mc.

BY DR. ALEX TAYLOR,* VK3AT

This is the circuit of a low noise level converter for 50 Mc. use, using disposal type valves and parts throughout.

The i.f. used is 2 Mc., the i.f. transformer being a 1,600 Kc. one with the iron slug well out of the coils.

The r.f. stage uses a 6SH7 connected as a triode with shunt neutralisation, the second r.f. stage being a grounded grid amplifier, in this case an EF50 with a bias resistor of 120 ohms. The screen and suppressor grids of the EF50 are connected to the plate, and the control grid is grounded. As usual, a shield is run across the bottom of the EF50 socket.

Capacity coupling is used between the first and second r.f. stages and it is found that the coil L4 is extremely uncritical, 10 turns of 16 gauge enamel wire is used, although 8 and 16 turns all seem equally effective.

The mixer is another 6SH7 used as a pentode with control grid injection of oscillator voltage and grid leak bias.

The high frequency oscillator is another 6SH7 using the "Clapp" or "Steco" circuit and although the values of fixed condensers in the circuit are smaller than in the lower frequency versions of this oscillator, it is very stable and c.w. signals on 50 Mc. can be tuned in with ease.

The grid circuit of the oscillator tunes the range from 26 to 28 Mc. and the second harmonic (range 52 to 56 Mc.) is picked off from the plate of the valve.

The oscillator only is tuned in this converter. The first tuned circuit is broad, the second between first and second r.f. stages is very broad, and the mixer coil has a very sharp resonance point. An iron slug is used to tune this coil and when the point of resonance at

50 Mc. is found, the circuit is broad banded by shunting the coil with a resistance of 3,300 ohms, which seems to give a band-width of over 4 Mc. A resistor of 10,000 ohms gave a band-width of 1.5 Mc. approximately, but no apparent increase in sensitivity of the converter.

ALIGNMENT OF THE CONVERTER

The mixer output coil is first resonated to 2 Mc. by adjusting its iron core until maximum noise is heard at 2 Mc. in the receiver used as i.f. channel. The oscillator tuning range is adjusted first and by listening for it on a ten metre receiver, then, with the tuning condenser out of mesh fully, the padding air trimmer is set so that the signal falls on 28 Mc.

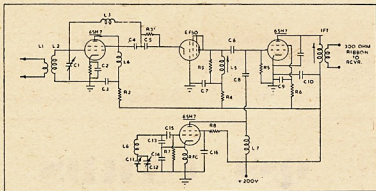
All that remains is to align the mixer and first r.f. coils. An absorption wave meter is handy here, to ensure that one is aligning the stages on the range 50-54 Mc. and not on the image.

Final adjustment is best made by listening to 50 Mc. signals and adjusting for maximum signal.

It will be found that the first tuned circuit is broadly resonant and the noise output of the converter seems to drop at resonance in this circuit.

The neutralising coil, L3, consists of 47 turns 22 gauge d.c. wire on a $\frac{1}{2}$ " former and requires no adjustment. One can play around with L4 for hours without improving matters. L5, the mixer coil, however, shows a sharp resonance point and can be broad banded as mentioned previously.

The conventional cascode converter uses a 6AK5 1st r.f. converted as a triode, and a 6J6 as grounded grid stage.



Cathode resistor of 1st r.f. stage (6SH7) is 120 ohms.

C1, C12—3-30 pF. air trimmers.

C2, C3, C5, C7, C9, C16—0.001 to 0.004 uF., mica.

C4, C6, C15—50 pF.

C8—7 pF. ceramic.

C13, C14—200 pF.

C10—0.01 uF., paper.

C11—25 pF. variable.

R1, R3—120 ohms.

R2, R4, R6—decoupling resistors, any value, 1,000 to 10,000 ohms.

R5—1 megohm.

R7—100,000 ohms.

R8—10,000 ohms.

R9—3,300 ohms.

L1—3 turns closely coupled to L2.

L2—4 turns $\frac{1}{2}$ " copper tubing 1" diam.

L3, L7—47 turns 28 gauge DCC $\frac{1}{2}$ " diam.

L4—10 turns 16 g. enamel $\frac{1}{2}$ " diam.

L5—6 turns 16 g. enamel $\frac{1}{2}$ " diam., iron dust core.

L6—10 turns 16 g. enamel $\frac{1}{2}$ " diam. on ceramic former, winding length 2".

* 108 Maude Street, Shepparton, Vic.

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These would be an improvement, but were not available at the time of construction of this converter and in any case the writer wished to use up some of the many 6SH7s in an I.F.F. Unit.

The 6SH7 is, however, not suitable in a grounded grid circuit as the suppressor grid is connected internally to the cathode, thus ruining any shielding brought about by grounding the grid of the valve.

There are special valves for grounded grid operation and when I can obtain one, results, whether better or worse, will be reported in this journal.

The choice of 2 Mc. as i.f. was made for the following reasons:—

1. The same oscillator and same tuning range are to be used in building a ten metre converter with 2 Mc. i.f. on the same chassis as this one.
2. Better conversion gain in the mixer stage is obtained by using a low frequency 2 Mc. i.f. than when using a high i.f. such as 10 Mc.
3. Images are 14 Mc. away and image interference from Amateur Stations is not experienced. Interference from strong local ten metre stations may occur, but is not a problem in this provincial city.

As in all v.h.f. receivers, lead lengths are short and point to point wiring and mounting of components is the most efficient.

The neutralising coil L3 is connected directly from the control grid pin of the first valve socket to junction of C4 and C5.

There is a small fixed condenser in the i.f. transformer connected across the

primary, this was removed and mounted on the socket of the mixer valve directly between plate and cathode. The values of C13 and C14 were arrived at by guess work and some experimentation here, if time were not so precious, would be advantageous.

L6 is wound on a $\frac{1}{2}$ " ribbed ceramic former, and the turns cemented in place with "Tarzan's Grip."

Earth leads and leads to C11 are rigid, $\frac{1}{4}$ " copper tubing being used here.

All coils in this converter are mounted underneath the chassis except L1 and L2 and also the 2 Mc. i.f.t., to avoid heat radiation from the valves.

A FEW HELPFUL IDEAS

When using a 6J6 as a mixer-oscillator or as a Clapp oscillator-buffer amplifier, use for the oscillator the triode section with plate pin No. 1 and grid pin No. 6. The other triode section (plate pin No. 2 and grid pin No. 5) has the getter assembly attached to the plate and is more subject to drift and microphonic troubles.—VK3AKZ.

Suitable springs to replace those in drill chucks can be obtained from old motor tyre valves.—VK2AC.

When carrying a multimeter, turn the selector switch to a high current range. The low resistance shunt across the meter is as good as shorting the leads together for heavily damping the meter and helping prevent bent needles and jarred movement.—VK3AKZ.



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Western N.S.W. Emergency Work

For a period of seven days from 4th to 11th April, Amateurs in the Forbes and Dubbo areas in N.S.W. were active in assisting the various authorities by supplying communication channels when other means failed. Without a doubt in the last two years Amateurs have had opportunities to assist in many disasters and they have grasped these opportunities on every occasion to demonstrate the emergency value of Amateur Radio.

The main portion of the work on this occasion was in co-operating with the Army who had a number of Army "Ducks" effecting relief in the area. During the whole operation approximately 400 messages were handled by Amateur Stations on behalf of the various authorities.

On the arrival of the "Ducks" in Forbes, a station was set up at the Town Hall to communicate with Army HQ. This station, manned by the Army, was also to be used for radio control of the "Ducks." On the morning of 4th April, Bill Kennedy, VK2BT, phoned Hugh Stitt, VK2WH, to say that the Army was having difficulty in contacting HQ and could he help? VK2WH then opened up on the 7 Mc. band and requested permission from official P.M.G. Station, VK2AA, to operate on 3830 Kc., the Army's frequency.

The town of Forbes itself was divided into three portions and the "Ducks" were busy in their rescue work in isolated areas, and communication with the "Ducks" was extremely important. Permission was granted and VK2WH's main transmitter was then tuned to 3830 Kc. and remained there for a period of seven days. A No. 11 battery-operated was used on the 7 Mc. band. The main transmitter was used as a link between the Army control station in Forbes and Headquarters and was also used to communicate with the "Ducks" when they were 70 miles away from Forbes.

Bill Kennedy, VK2BT, and John Marr, VK2AMV, in Forbes proper, were also active on both 3.83 and 7 Mc., and later in the operation the three stations worked shifts on the Army frequency of 3830 Kc. A 50 Mc. link between all three stations was in operation and afforded them a channel on which they could communicate without interference on either 3.8 or 7 Mc.

Quite an amount of traffic was also handled on the 7 Mc. band and VK2AA, official station, kept a continuous watch on the Emergency Frequency of 7002 Kc. and gave the Amateurs active every assistance.

The New Zealand 3.5 Mc. band extends to 4 Mc. and considerable trouble was experienced during the evenings with interference from ZL stations. After a message from VK2NS, requesting clearing of the frequency and the appearance of official monitoring station ZL3JT, on the following evening, 3830 Kc. was kept clear of interference.

Most of the emergency work was done on telephony and it was fortunate that stations participating were able to use

their main home transmitters. At one stage when the power failed at VK2WH, a request to VK2BT obtained a quick repair. It was typical of the co-operation afforded the Amateurs in their work. Many of the local people listened to the emergency working on 3.8 and 7 Mc. bands and in one case, a message concerning the feeding of some marooned stock was intercepted, and the stock fed before the message finally reached its destination. BCI was even forgotten in the desires of the local people to follow the story.

Later in the operation, two "Ducks" proceeded to the Warren area and after a call on the 7 Mc. band, VK2XP, of Dubbo, was asked to look after them, as it turned out Bob Bensley had been away from them for two days and had the position in hand. Bob continued to solve the communication problems of the "Ducks" until the floods had subsided and they were no longer required.

CERTIFICATE OF SERVICE

It was pleasing to see Chas Peddell, VK2KN, as the recipient of a Certificate of Service from the N.S.W. Police Department, for his sterling emergency work during the Kempsey flood disaster last year. His assistant, Mervyn Harrison, also of D.C.A., received a certificate too. They were presented at the June meeting of the N.S.W. Division of the W.I.A.

Several interesting points were learnt from the operation and they could prove valuable for future emergency working of Australian stations.

The first concerned the polarisation of the signals and it was found that reception of the Army "Ducks," using vertical whip antennae, was extremely difficult using the normal horizontal half wave doublet. On changing to a vertical antenna, the signals from the "Ducks" rose a number of points. VK2WH used the vertical for working to the "Ducks" and the horizontal for communicating with HQ.

During the first days of the operation Amateur Stations were active up to 17 hours per day. Working for such long periods gave a good insight into the conditions prevailing on 3.8 Mc. and it was shown that the band each day at 1130 hours became practically useless and that a frequency about 6 or 7 Mc. should be available for use when this condition prevailed.

Conclusions could be drawn that a considerable amount of emergency work with mobile equipment could be done in the 3.5 Mc. band during daylight hours, but such gear should also cover the 7 Mc. band.

(Continued on Page 10)

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

JULY, 1950

Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

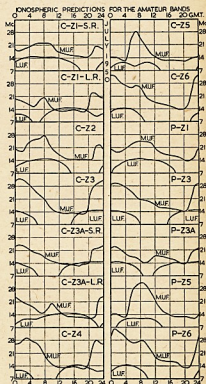
Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N-West America	San Francisco
3a	N-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-San Francisco circuit would be useful:—

1. Were good conditions experienced on 7 Mc. for the period 0600 to 1500 hours G.M.T.
2. Was the 14 Mc. band workable between 1000 and 1800 hours G.M.T.?
3. Was the 28 Mc. band workable for several hours around midnight G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the months.



VK-ZL INTERNATIONAL DX CONTEST, 1950

In announcing the rules for the 1950 VK-ZL International DX Contest, the New Zealand Association of Radio Transmitters, with the Wireless Institute of Australia, invite the participation of members to ensure the continued success of this Contest.

OBJECTS.—For the world to contact VK and ZL stations and vice versa.

WHEN.—
 1201 G.M.T., 22nd Sept. to } C.W.
 1159 G.M.T., 24th Sept. }
 1201 G.M.T., 29th Sept. to } Phone
 1159 G.M.T., 1st October }
 1201 G.M.T., 6th October to } C.W.
 1159 G.M.T., 8th October }
 1201 G.M.T., 13th October to } Phone
 1159 G.M.T., 15th October }

DURATION.—(a) VK and ZL stations for contest purposes will limit their period of operation to any consecutive 24-hour period on each week-end within the times given above. Once an operator commences operation, the operator will not exceed 24 hours of consecutive operation reckoned from such commencing time.

(b) In other countries, stations may contact VK and ZL stations at any time within the periods shown above.

RULES

1. There shall be three main sections to the Contest.

- Transmitting c.w.
- Transmitting phone.
- Receiving (phone and c.w.).

2. The contest is open to all licenced transmitting stations in any part of the world. No prior entry need be made. Mobile marine stations or other non-land based stations are not permitted to enter the contest.

3. All Amateur frequency bands may be used.

4. C.w. will be used for the first and third week-ends, and phone for the second and fourth week-ends. Stations entering for both phone and c.w. sections must submit separate logs for each.

5. Only one contact per band per week-end with any one station (for contest purposes) is permitted.

6. Only one licenced Amateur is permitted to operate any one station under the owner's call sign. Should two or more operators operate any particular station, each will be considered a competitor and must submit a separate log under his own call sign.

7. Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of 5 or 6 figures will be made up of the RS (telephony) or RST (telegraphy) reports plus three figures which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for each successive contact. E.g., if the number chosen for the first contact is the 053, then for the second contact the number must be 054, for the third 055, and so on. If another contestant reaches 999, he will then start from 001 and continue.

8. **SCORING.**—Fifteen points will be scored for the first contact on a specific band with any overseas country (VK-ZL district for overseas stations), fourteen points will be scored for the second contact on the same band with the same country (VK-ZL district), thirteen for the third and so on to the fifteenth contact which will score one point. All contacts with that particular country (VK-ZL district) on that band will thereafter count one point each. This scoring procedure will be repeated on each band to encourage multi-band operation. There will be no VK-ZL contacts between each other. A.R.R.L. official countries list will be used. VK-ZL districts are VKs 1, 2, 3, 4, 5, 6, 7, 9, and ZLs 1, 2, 3, 4.

9. **LOGS.**—(a) Logs must show in this order.—Date, time in G.M.T., band of operation, call sign of station contacted, serial number sent, serial number received, points claimed.

(b) A separate log must be submitted for each band. For each band an analysis sheet must be given showing:—list of countries (VK-ZL districts) contacted with number of contacts and points claimed for each country (VK-ZL district) contacted.

(c) A summary sheet to show:—(1) station call sign, (2) name and address of the operator, (3) whether phone or c.w., (4) points claimed for each band, (5) grand total of points, (6) brief description of transmitter, tubes, power, antenna, etc.

(d) A declaration that all contest rules and regulations for Amateur Radio in your country have been observed and that the log is correct and true to the best of your belief.

10. The judges reserve the right to disqualify any station for (a) consistent tone reports under T8, (b) continuing key clicks, (c) phone splatter and/or overmodulation, (d) off frequency operation.

11. The ruling of the Executive Council of N.Z.A.R.T. will be final in the event of any dispute.

12. Overseas stations should call CQ VK-ZL, and VK-ZL stations CQ Test.

13. **AWARDS.**—Attractive certificates will be awarded to the station returning the highest score from each particular country and each call area in the U.S.A. Additional certificates may be issued at the discretion of the Contest Committee. There will be no world winner. VK and ZL awards will be announced by the W.I.A. and N.Z.A.R.T. respectively.

14. Entries from overseas stations should be plainly marked on the wrapper, "VK-ZL TEST," and forwarded to reach N.Z.A.R.T., Box 489, Wellington, N.Z., by 14th January, 1951. Logs from ZL stations should reach the same address by 24th November, 1950, while VK logs should be sent to their respective Divisions by 24th November, 1950.

RECEIVING SECTION

1. The rules for the Receiving Contest are the same as for the Transmitting Contest, but is open to all members of

any Short Wave Listeners' Society in the world. No transmitting station is permitted to enter for the receiving contest too.

2. The contest times and the logging of stations once on each band per week-end are subject to the same rules as for the transmitting contest except that VK and ZL listeners may listen and log stations over the whole period of the contest. Logs will be in the same form as for the transmitting contest.

3. To count for points, the call sign of the station being called, the strength and tone of the calling station, together with the serial numbers sent by the calling station must be entered in the log. Points will be claimed on the same scale as for transmitting stations.

4. It is not sufficient to log a station calling CQ Test.

5. VK receiving stations cannot log VK stations, and ZL receiving stations cannot log ZL stations, but VKs may log ZLs and vice versa. Overseas stations will log only VK and ZL stations heard operating in the Contest.

6. Certificates will be awarded as in the transmitting contest.

N.S.W. EMERGENCY WORK

(Continued from Page 9)

Local authorities and Amateur Stations co-operated fully in the operation. Of the latter, VK2GS, VK2WJ operated by VK2VW, and VK2AMR, not forgetting the many other stations active, were of great assistance acting as guard stations and calling other areas.

The wives of the Amateurs, even with their own worries, assisted often to ease the burden. Mrs. Marr, wife of VK2AMV, for instance, for a number of days ran a receiver, 3830 Kc, and relayed any messages necessary to John. Both VK2BT and VK2AMV had their own personal flood problems early in the operation, but when the normal business of the town was suspended, they operated their stations full time.

VK2WH was isolated very early in the emergency and from then on was nearly full time in the shack, he has been flooded three times since Xmas and is getting a little tired of it all.

The sum total of Amateur Radio activity meant that food relief to the citizens and stock was expedited, as was rescue work and with it goes up another mark on the credit side for Amateur Radio.

Not long ago we read complacently of the emergency work of the American Amateur and with the rider that "it couldn't happen here," passed the matter of emergency organisation by. It has happened here—to be precise, eight times in the last eighteen months—so let us organise that we best perform a function of our hobby, that of supplying communication to those in distress.



Mr. R. H. Cunningham using the "750" at the Eddystone Ham Shack.

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Abstracts from Overseas Magazines

R.S.G.B. "BULLETIN," OCTOBER, 1949

- P. 84: "An All-Band Crystal Calibrator." W. H. Allen, G5UD—One Mc. crystal oscillator, 100 and 10 Mc. multivibrators, harmonic amplifier and cathode follower for low impedance output. Gives up to 100 kc. output up to 70 Mc. and 100 kc. points up to 150 Mc.
- P. 106: "Simple C.W.-Phone Monitor."—For c.w. an audio oscillator whose h.t. is obtained by rectifying a small portion of the r.f. output of the transmitter. On phone, acts as a diode rectifier.
- P. 107: "Simple Breakin Systems." J. P. Hawker, G5VA.—Survey of proven systems. Full of information of interest in working break-in.
- P. 110: "Instant Heating Soldering Iron." J. Gilbert, G5DDQ.—Bit consists of loop of 12 gauge copper wire which is heated by passing 100 amps directly through it. This current (at 1 volt) is applied by a small home-made transformer, built into the iron which is in the form of a pistol.
- P. 111: "Carbon Microphones." G. B. Brewer, G4LL.—Advantages of modern carbon mikes.
- P. 112: "Considerations Affecting the Accuracy of Measurements." J. B. Harris.—General discussion on traps for young players.
- P. 116: "The R.S.G.B. 420 Mc. Tests."—Full details of field day with details of all tips used.

"SHORT WAVE NEWS," JANUARY, 1950

- P. 3: "A 420 Mc. Superregen. Receiver." J. Taylor.—RL18 in quarter wave circuit tuned by butterfly condenser.

R.S.G.B. "BULLETIN," JANUARY, 1950

- P. 214: "A Table Top Transmitter for the DX Bands."—Compact 3 stage rig for 14, 21 and 28 Mc. Final is parallel 807a.
- P. 216: "S Meter Operation with Delayed A.V.C. Circuits."—G. Grist.—Adds an EA30 as an undelayed rectifier.
- P. 217: "Single Sideband Transmission Applied to the Telephone." Part II.; N. G. Hyde, G2AIB.—Details of phase shift transformer and balanced frequency converter for the receiver.
- P. 228: "Automatic Change Over." F. W. Jeffries, G5JIB.—Heart of the system is a large condenser which is charged on keying and discharges through a sensitive relay. This will hold the relay shut for a 15 seconds' break after which the relay opens and changes circuit to receive.
- P. 220: "Bright Ideas!" L. M. Gunnell, G5HR.—(i) Home-made 813 socket; (ii) An oscilloscope power supply; (iii) Burnt out r.f. ampers as milliammeters.

"HAM TIPS," JANUARY, 1950

- P. 1: "A Simple Code Practice Unit for the Novice." E. Bucklin, W2CQD.—1A5GT in Hartley circuit using push-pull audio transformer.
- P. 1: "Electronic Keying Systems." M. Seybold, W2RYL.—Gives seven circuits which have been tried at various times. Latest circuit is for screen keying using a VR tube in series with the screen supply as the essential on-off element together with a grid plate to raise and lower the voltage causing the VR tube to conduct or not.
- P. 4: "Simple Over Modulation Indicator." G. Hanchett, W3WYM.—1B3GT as negative peak rectifier which flashes a neon when it conducts. The blamped filter type 4-4B heater is connected in series to the r.f. final. Suggests using 3V4 diode connected in place of 1B3GT H.t. is less than 600.

"SHORT WAVE MAGAZINE," FEBRUARY, 1950

- P. 898: "Wide Range Heterodyne Frequency Meter." F. Butler.—Three valve circuit. Electron coupled v.f.o., 50 Kc. crystal calibration.
- P. 903: "Self-Contained QRP Portable Transmitter/Receiver." P. Newport, G3DXX.—40 metre dry battery l.f. receiver and c.w.-p. transmitter.
- P. 907: "H.T. Without Transformers."—Methods of obtaining h.t. and filament supply direct from a.c. mains. Not to be recommended.
- P. 911: "G.P. Crystal Checker." J. H. Jovett, G5CFR, and P. J. Towgood.—Pierce crystal oscillator for generating marker harmonics on testing activity and frequency of crystals whilst grinding.
- P. 913: "C.R.T. Phone Monitor." J. A. Plowman, G1AST.—Simple c.r.o. phone monitor in a standard 100 ohm valve.
- P. 925: "Testing the S.S.B. Transmitter." H. C. Woodhead, G5NXX.—Adjustment and setting up of crystal filter type 4-4B transmitter.
- P. 929: "Another Top Band Tax." C. T. Atkinson, G2OZ.
- P. 937: "Parallel-Fed Modulators." D. E. Pauld, G5NBE.—Saturation of modulation Transformer by p.a. current by using an additional modulation choke.

"SHORT WAVE NEWS," FEBRUARY, 1950

- P. 32: "A Two Valve Receiver for 145 Mc." A. R. Turgate, G5ELB.—9002 superregen detector, 6C5 audio.
- P. 35: "Seventy Centimeters." Part I.; Major Cycle.—Introduction and methods of frequency measurement.

R.S.G.B. "BULLETIN," FEBRUARY, 1950

- P. 252: "A 6K8 Low Power Transmitter." J. L. Rough, ZL3JYT.—6K8 triode section as 1.75 Mc. v.f.o. oscillator, coupled internally to hexode section which doubles to 3.5 Mc. Five watts input to hexode without ill effects.
- P. 253: "Communications Receiver Design." D. Neightman, G0DHI.—The best article seen for some time discussing just what is necessary in a communications receiver. If you are going to build a receiver, then read this article first. This description of the development of the Demco DCR19 is full of both general and detailed ideas.
- P. 259: "An Electronic Keyer." B. Brondum-Nielsen, OZ7BO.—Although not completely electronic, as it uses two relays, this device for producing automatic dots and dashes appears simpler and easier to get going than the usual ideas on this subject.
- P. 261: "In the Workshop." "Donex."—The technique of soldering.
- P. 263: "Bright Ideas."—(i) Stabilising the 813 by inductive neutralisation; (ii) Improving selectivity with out-band I.F. stages.

"QST," MARCH, 1950

- P. 11: "A Beginner's Four-Tube Superhet Receiver." D. H. Mix, W1TS.—6BT7 converter, 6X07 1500 Kc. I.F. stage, 6SN7 detector and b.f.o., 6X87 audio. Oscillator covers 5 to 5.8 Mc. Aerial circuit can tune either 1500 Kc. above or below oscillator, thus covering 80 and 40 metres with good band-spread but without changing coils. Also the second harmonic from the oscillator gives two more ranges by retuning the aerial circuit.
- P. 18: "Incandescent Light Flicker." R. E. Shank, W5CKY.—How to get over the lights blinking when high power is keyed.
- P. 20: "Eliminating TVI with Low Pass Filters." Part II.; G. Grammer, W1DFP.
- P. 28: "Crystal Controlled Oscillators." C. V. Chambers, W1JWQ.—Results of lots of tests on 6AG7, 6F6, 6V6GT and 816 in trit, grid plate, and modified Pierce circuits. Found that: (i) Screen voltage regulation is essential to good keying; (ii) The 6AG7 is by far the best tube type from every stand point; (iii) The trit gives the most output with 6AG7 in Pierce circuit second; (iv) Modified Pierce circuit is easiest on crystals with grid plate wot; (v) Unless a 6AG7 is used, it is not advisable to tune any oscillator for maximum output because a slight change in circuit conditions may cause frequency shift; (vi) Plate circuit keying gives less chop than cathode keying.
- P. 34: "A Two Metre Station for the Novice." E. P. Tilton, W1HDQ.—Part II. Transmitter 6J6 24 Mc. oscillator-doubler, 6J6 tripler, pair of 6J6s push-pull parallel final p.p.
- P. 46: "Clamp Tube Modulation." B. Goodman, W1DX.—How to try screen modulation of p.a. final using a clamp protection tube. Very suitable for 807a.
- P. 50: "Adjusting Antenna Coupling in VHF Receivers." H. H. Cross, W1OOP.—Adjusting for lower noise figures without noise generator.
- P. 52: "Hints and Kinks."—(i) Two improvements in clamping elements to boom in all metal beams; (ii) Simplified LC calculations; (iii) Code Practice Oscillator; (iv) Soldering; (v) Preservative for wooden masts; (vi) Direct reading dial for the HRO.
- P. 54: "TVI Tips." G. Grammer, W1DFP.—1N34 used as a simple v.h.f. mixer with a grid dip oscillator as local oscillator and communications receiver tuned to i.f. Serves as a simple yet sensitive receiver.
- P. 60: "The World Above 50 Mc." (i) Automatic band scanning gadget used by W9ZHL; (ii) On tripling to 420 Mc., which tubes will, which won't.

"QST," APRIL, 1950

- P. 11: "A Constant Modulation Phone System." G. R. Lippert, W3YER.—The screen modulated in the usual manner except that there is no d.c. voltage on the screen. Instead, portion of the modulator output is rectified and used for the screen supply voltage. Thus the screen voltage increases and decreases with the average speech level, maintaining a high percentage modulation. The low quiescent current in the r.f. final should be useful for portable work.
- P. 14: "A Two Stage Transmitter for the Beginner." D. H. Mix, W1TS.—It really takes an expert to design a simple beginner-proof transmitter. Here is one designed by one, 6AG7 c.o. driving 6J6 or 6V6 p.a. gives suitable aerials.
- P. 30: "Coupling Unbalanced to Balanced Lines." C. T. Liley, W3OCX.—LC networks for coupling say 300 ohm twin lead to 75 ohm co-ax. These

networks are broad enough to cover an Amateur band.

- P. 32: "Welding Aluminium with a Blow Torch." H. H. Washburn, W3MTE.
- P. 33: "Eliminating TVI with Low Pass Filters." Part III.; G. Grammer, W1DFP.
- P. 34: "Key Clicks and Receiver Bandwidths." B. Goodman, W1DX.—Methods of eliminating key clicks and how they are affected by bandwidth.
- P. 42: "A Two Metre Station for the Novice." Part III.; E. P. Tilton, W1HDQ.—Modulation, power supply and control unit.
- P. 48: "50 Years of Progress. A Report on Amateur Radio." Larsen E. Rapp, W1OU.—This noted author's usual 1st April offering.
- P. 58: "A High Frequency Crystal Filter." K. P. Lane, W0BEN.—Between converter and 3 Mc. receiver, a 8 Mc. crystal filter is used. Circuit similar to standard I.F. crystal filters.
- P. 64: "Hints and Kinks."—(i) Something new in matchless devices for coupling co-ax to beams; (ii) Torque protection for rotary beam antennas; (iii) "Clammer" tube troubles.
- P. 77: How to get single sidedband excited carrier reception of a.m. signals using the crystal filter and b.f.o. already in your receiver. An interesting idea.

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50 Mc. AND ABOVE

Compiled by J. K. Ridgway, VK3CR

There is a severe shortage of news of v.h.f. dolgers this month due undoubtedly to an equally severe lack of activity on the bands.

The only DX item of interest concerns a short opening from VK3 to VK4 on Sunday, 11th June, from 2000 hours to 2040 hours when VKs 3RR, 3RQ, 3RM and 3CR contacted VK4CJ. Signals were not the best, peaking to S7 at times with plenty of QSB. It is understood that VK4s also worked VK2s on the same date, but no report is to hand at the time of writing.

VICTORIA

Due to the cold weather, activity on this band has been on a somewhat reduced scale. A new station is 3JZ of Parkdale, who is putting out a good signal from a single 807 with 50 watts and a 3 element beam. 3JF has returned to the band after a long absence and is doing well with 18 watts on an 832 and a 3 element v.a. beam. DX has been practically non-existent, a few VK2s were heard recently on the 27th of May, but no contacts were made. It is hoped that with the coming of the mid-winter sporadic E peak there will be a few openings to some interesting contacts. Moderate stations are reminded that 3BQ calls CQ on c.w. at 1200 and 1500 most days.

WESTERN AUSTRALIA

A new signal has been reported on six metres this month; that of 6HW, Fremantle. Harry's transmission was heard in Bendavid by 6BD. However it is believed that 6HW is now being another rig for six and we hope it won't be long before you become one of the "regulars" on the hand Harry. It might be mentioned that any new signal is welcome on six. There is plenty of room for everyone and this band is ideal for cross town QSOs.

Nothing elaborate is really needed to get on six, and high power is certainly not necessary. 6HL can vouch for that statement I think. Harry's 6 watt rig and rotary dipole is putting out quite a respectable signal. It is eventually another affair for ten and six, when the installation is the car can be completed.

Of the country stations on six, 6GS and 6DV are still the most common signals into Perth. Contact can nearly always be made on c.w. and sometimes conditions peak sufficiently to allow phone to be used.

6AS is using a new converter (ex-VK3U1) and results obtained are very satisfactory indeed. The converter uses a 717A and 6J5 mixer oscillator with output on 7 Mc. 6HR is now putting out a very solid signal on six metres and apparently has that grid drive problem beaten. Nice work Lew. Stations active on six at present are as follows: 6BO, 6FC, 6RS, 6GB, 6FW, 6HR, 6HL, 6DD, 6AS, 6DW, 6GW, 6GS and 6EC. Don't forget the weekly round-up on Monday evening follows.

VICTORIA 144 Mc. JOTTINGS

This band has been quiet for the same reasons as 50 Mc, although the regulars have maintained skeleton activity on the band. New stations are 3ATH using 817 gear and 3ADU, using push-pull 7193A with a unity coupled oscillator. 3ZD of Warragul, 60 miles e.s.e. of Melbourne, has arrived on the band using 36 watts to an 815 and a 2 element v.a. beam, and will provide the Melbourne gang with some DX contacts. 3AKM, of the same town, is also getting gear ready for the band and should be on before long.

STO has been operating from his portable location near Yallourn most Sunday afternoons and has been providing some interesting contacts with Melbourne stations. Signals vary a great deal, being quite strong and steady on some occasions and weak and fading badly on others.

IMPORTANT

Would all Magazine Contributors please note that all contributions must be addressed to "Law Court Chambers," 191 Queen St., Melbourne, and NOT to the old box number.

Contributions, particularly notes, if addressed to the box number may not be received in sufficient time to be included in Magazine for the month for which they are intended.

288 Mc. WORK IN WESTERN AUSTRALIA

6FC and 6BO have been doing some very f.b. work on 288 Mc. report terrific signals between Cottlesloe and Bussendean (about 13 miles). 6FC (Frank) is using a pair of CV6s and a four element parasitic array, whilst 6BO (Rolo) uses a pair of 7193s and a four over four beam.

No news from the 144 Mc. gang, but will hope to have some news of this band for inclusion in next month's notes.

288 AND 576 Mc. ACTIVITY IN VICTORIA

3ARY, 3ATP, 3ADU, and 3ED, all of Bussendean, are active on 288 Mc., using modulated oscillators and superregenerative receivers and are getting good signals over the short distances involved.

On 576 Mc. the only two active appear to be 3AGS and 3QC, who have been doing a great deal of experimenting with antennas and are getting good signals over this four mile non line of sight path. New blood or renewed activity from old would be appreciated.

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Belling Lee type L600 70 ohm co-axial cable	per yard, 2/5
Belling Lee type L1221 70 ohm twin co-axial cable	per yard, 2/5
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Belling Lee type L630/L531 7-pin plug and socket assembly	10/-
Belling Lee type L550/L551 5-pin plug and socket assembly	7/5
Other types of Multi-Connectors available shortly.	
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Belling Lee type L1045/C3 single cartridge fuse holders. Takes standard car type cartridge fuses	6/9
Belling Lee type L356 panel mounting cartridge fuse holders	5/4
Belling Lee type L575 miniature of above	3/1
Belling Lee type L590 "Carod" stainless steel car aerial	39/6
Belling Lee Co-Axial Cable Connectors:—	
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Type L642/P to fit L604/S	2/7
Type L1266 chassis mounting male	6/9
Type L1250 female to fit type L1266	8/-
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Type L1259 male connector to fit L1267 and L1250	8/-
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Metro-Vickers "Electrix" 0-1 Ma. 2" round meters	£1/9/6
Metro-Vickers 0-20 volt DC 200 ohm/volt 2" square meters	19/6
Amphenol Steatite 5-pin valve sockets	3/6
American Tung-Sol 6AK5 tubes	18/6
American RCA 8012 v.h.f. triodes. Full rating 80 watts to 500 Mc.	10/-
American type J4 light weight Morse code keys	10/-
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FEDERAL

DX CC. LISTING

PHONE

VK3JD	37	148
VK3JL	(19)	37	148
VK3KW	(4)	37	136
VK3RU	(2)	37	134
VK3SZ	(3)	..	..	37	134
VK3S	(9)	..	..	37	134
VK3J	(6)	..	..	114	
VK3DD	(6)	..	..	113	
VK3JL	(11)	102	
VK3HR	(12)	35	107
VK3ADT	(18)	102	
VK3G	(6)	100	
VK3JE	(7)	100	

New Member:—

VK3AW	(14)	105	
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C.W.

VK3BZ	(6)	40	175
VK3E2	(2)	40	152
VK3CN	(1)	40	151
VK3EL	(9)	40	140
VK3RU	(19)	39	138
VK3YV	(4)	40	135
VK3QL	(5)	..	..	40	133
VK3HR	(8)	..	..	40	126
VK3FL	(15)	..	..	38	126
VK3EP	(11)	..	..	35	125
VK3KZ	(3)	..	..	39	123
VK3PD	(18)	..	..	37	119
VK3UM	(12)	..	..	37	115
VK3DA	(7)	..	..	38	113
VK3DO	(20)	..	..	109	

New Member:—

VK3YD	(27)	..	..	105	
VK3JL	(23)	..	..	38	104
VK3XJ	(26)	..	..	101	

OPEN

VK3BZ	(4)	..	..	40	197
VK3RU	(8)	..	..	39	169
VK3XK	(1)	..	..	40	167
VK3HR	(7)	..	..	40	161
VK3PD	(12)	..	..	39	157
VK3HG	(3)	..	..	40	160
VK3YV	(13)	..	..	39	157
VK3JL	(15)	..	..	39	150
VK3PD	(19)	..	..	39	140
VK3MC	(5)	..	..	39	139
VK3ES	(14)	..	..	36	139
VK3PD	(19)	..	..	39	139
VK3DO	(25)	..	..	40	135

New Member:—

VK3BZ	(34)	..	..	109	
VK3JL	(33)	..	..	38	105

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI—Sundays, 1100 hours EST, 7194 Kc. and 2000 hours EST, 604 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI—Sundays, 1130 hours EST, simultaneously on 3580 and 7195 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI—Sundays, 0900 hours E.S.T. simultaneously on 3730 Kc., 7195 Kc., 1443 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI—Sundays, 1600 hours SAST, on 7195 Kc. Frequency checks given by VK5WI by arrangement only on the 7 and 14 Mc. bands.

VK6WI—Sundays, 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI—Second and Fourth Sundays at 1000 hours E.S.T. on 7195 Kc. No frequency checks are available.

STANDARD FREQUENCY SERVICE

A Standard Frequency Service, similar to that in operation by WWV in Washington, D.C., and WWVH in Honolulu is now being operated by the National Physics Laboratory at Teddington, England, on an experimental basis.

The frequencies in use are 5 and 10 Mc. and may be heard at the following times: 6 Mc., 3.44 p.m. to 4.15 p.m.; 10 Mc., 4.29 p.m. to 5 p.m. E.A.S.T.

FREQUENCY ALLOCATIONS

The following is a list of the bands available for use by the Amateur Service in Australia, followed by the types of emission allowed on those bands.

5.5 to 5.8 Mc.—A1, 2, 3, 3F2.
7.0 to 7.2 Mc.—A1, 2, 3, 3F2.
14.0 to 14.4 Mc.—A1, 2, 3, 3F2.
15.98 to 17.23 Mc.—A1, 2, 3, 3F2.
28.0 to 28.5 Mc.—A1, 2, 3, 3F2.
50.0 to 54.0 Mc.—A1, 2, 3, 3F2.
144 to 148 Mc.—A0, 1, 2, 3, FM, Pulse.
288 to 296 Mc.—A0, 1, 2, 3, FM, Pulse.
576 to 585 Mc.—A0, 1, 2, 3, FM, Pulse.
1215 to 1300 Mc.—A0, 1, 2, 3, FM, Pulse.
2300 to 2400 Mc.—A0, 1, 2, 3, FM, Pulse.
5650 to 5850 Mc.—A0, 1, 2, 3, FM, Pulse.
10000 to 10500 Mc.—A0, 2, 3, FM, Pulse.
21000 to 22000 Mc.—A0, 1, 2, 3, FM, Pulse.
30000 Mc. and higher—A0, 1, 2, 3, FM, Pulse.

Note—3F2 emission represents a maximum deviation from the quiescent frequency of plus or minus 3 Kc.

GENTLEMEN'S AGREEMENT

As a result of item 39 of the 1950 Federal Convention, all Amateurs are requested to refrain from using phone between 7000 Kc. and 7050 Kc. Remember the gentlemen's agreement please.

COMMERCIAL INTERFERENCE

How many Amateurs are there that complain of commercial interference in the Amateur Bands? Have you made a written report of your observations? If not, why not now? Send your report to your Divisional Council for transmission to P.E.

UNIFORM PHONETICS

The need for the use of a uniform phonetic alphabet is long overdue. The W.I.A. made representation to the I.A.R.U. for an expression of opinion to be obtained from all Radio Societies throughout the world, with the result that the result was unanimous.

QUEENSLAND

Secretary—W. L. Stevens, VK4TB, Box 6582, G.P.O., Brisbane.
 Meeting Night—Third Friday in each month at the U.K.R. Rooms, Wickham St., Valley.
 Divisional Sub-Editor—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary—G. M. Bowen, VK3XU, Box 1234K, G.P.O., Adelaide.
 Meeting Night—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor—W. W. Parsons, VK3PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night—Third Tuesday of each month.
 Divisional Sub-Editor—Alec A. Smith, VK6AS, 72 Weston St., Carlisle, Western Australia.

TASMANIA

Secretary—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.
 Meeting Night—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor—G. D. P. Clarke (VK7TA), c/o 710, 82 Elizabeth Street, Hobart, Tas.
 Northern Zone Correspondent—R. H. Kilby, VK7RN, 5 Galvin Street, Launceston.

As the Inter-Services List is known throughout all Allied Nations, the Federal Council suggests that greater use be made of this list. Furthermore, it is the one suggested by the P.M.G. Department in the Handbook for the Guidance of Licensees of Amateur Wireless Stations.

ADDITIONS, ALTERATIONS, AND DELETIONS TO AMATEUR CALL SIGNS—MAY, 1950

Additions—

VK3AIH—H. S. Watson, 57 Wandell Rd., Peterham.
 2AKR—K. Whitmore, 5 Euston Ave., West Ryde.
 2AFT—H. E. Trevena, 183 Old Kent Rd., East Bankstown.
 2AVO—K. V. O'Rourke, 4 Cowper St., Warrawong.
 2AZI—B. D. Woods, 45 Burmiba Ave., Randwick.
 VK3PD—G. D. P. Clarke, 601 Toorak Rd., Toorak.
 3ADY—G. P. Les 5 Hutchinson St., Sunshine.
 3ADV—J. W. Williamson, 36 Westgate St., Oakleigh.
 3AON—G. R. Berrowes, c/o J. Lakin, 16 Swanton St., Geelong.
 3ARP—R. E. Pope, 7 Kyren Pde., Nth. Balwyn.
 3ATN—F. R. Naughton, Fire Station, Sunshine.
 VK4IO—H. A. Griffiths, 9 Ipswich St., Toowoomba.
 4IB—L. G. Baker, 13 Edward St., One Mile, Ipswich.
 3AON—G. R. Berrowes, c/o J. Lakin, 16 Swanton St., Geelong.
 3ARP—R. E. Pope, 7 Kyren Pde., Nth. Balwyn.
 3ATN—F. R. Naughton, Fire Station, Sunshine.
 VK4IO—H. A. Griffiths, 9 Ipswich St., Toowoomba.
 4IB—L. G. Baker, 13 Edward St., One Mile, Ipswich.
 VK5EH—J. R. Hawke, 219 Stanley St., North Adelaide.
 5KBW—A. H. Vonthoff, Vaughan Ter., Berri.
 5NR—R. E. Bell, 113 Brighton Rd., Hove.
 5NM—M. N. Mayer, 8 Palmyna Ave., Torrensview.
 5PP—D. McEl, Robson, L.R.W.E. Hostel, Salisbury.
 VK5MR—M. J. Ripper, Madang, T.N.G.
 6PP—P. J. Filmer, Norfolk Island.

Alterations—

VK2AL—14 Connelly St., Penshurst.
 2BT—16 Grenfell Street, Forbes.
 2EX—"Mary Villa," Moorecourt Ave., Springwood.
 2FR—Albury Street, Bolbrook.
 2FR—217 Princes Highway, Sutherland.
 2IU—Flat 2, 38 St. Georges Cres., Drummond.
 2RD—62 Sofia Street, Horse Bay.
 2RP—18 Mitchell Ave., Kurri Kurri.
 3ON—Jaan Baan Street, Dubbo.
 3OZ—"Wembury," 12 Elizabeth St., Ashfield.
 3PA—24 Kinnaird Street, Wagna Wagna.
 2AHT—Flat 26D, Cr. Merriand and Woodville Rds., Merrylands.
 2AHU—3 Inverary St., Concord.
 2AX—21 Bondi Junction St., Bondi Junction.
 2ARN—24 Burge Rd., Woy Woy.
 VK3EV—15 Elman Rd., Chesham.
 3IIF—Cameron Rd., Essendon.
 3IC—Old Fernside Rd., Newcastle.

3M2-8 Bransgrove St., East Preston.
 3TP-105 Gallantia Rd., Hawthorn.
 4XU-14 Glen St., Eastwick.
 4ZW-(Lot 12), Mansfield Rd., East Bantleigh.
 5AAR-38 Harrison St., Dear Park.
 5AB-174 St. David St., North Geelong.
 5AB-196 Eiman Rd., Chesham.
 5AOC-278 Malvern Rd., Prahran.
 5ARC-114 Wilgah St., East St. Kilda.

VK1AB-61th Avenue, Palm Beach, Elnora P.O.
 4AC-6th Avenue, Palm Beach, Elnora P.O.
 4CB-112 Church St., Manly.
 4CH-"Salton House", Grafton St., Warwick
 4D-100 P.O. Box 145, Cloncurry.
 4DV-198 Eblan Rd., Manly.
 4MC-100, Edith Bryan Hotel, Cn. Free and
 Goring Streets, Newcastle.
 4MP-111 Allister Street, Gattam.
 4RT-Ennema Street, Holland Park, Brisbane.

VK5CD-Kempton.
 5GP-119 Magill Rd., Trinity Gardens.
 5GR-Night Cliff, Northern Territory.
 5TV-143 Napier Terrace, Westbourne Park.
 VK6FL-274 Walcott Street, North Perth.
 6KD-c/o 6AM, Northam.
 VK7MG-849 Sandy Bay Road, Hobart.
 7WJ-"Fairview", Epsomdale, Belleville.
 VK9MC-Bailey River, Central New Guinea.

Cancellation

VK2CD-Cancelled.
 2DY-Cancelled.
 2AZC-Cancelled.
 VK2AP-Cancelled, now operating under 3AOP.
 VK3PO-Cancelled.
 8SW-Cancelled, re-allotted to G. P. Leif.
 8WU-Cancelled.
 2AB8-Cancelled.
 8ATH-Cancelled.
 VK4DG-Cancelled.
 4JT-Cancelled.
 4KE-Cancelled.
 4ZC-Cancelled, now operating under 2AZL.
 VK6RP-Cancelled, now operating under 6PF.
 6WX-Cancelled.
 VK7RP-Cancelled.
 7TA-Cancelled, now operating under 3PD.
 VK9JY-Cancelled.
 8VB-Cancelled.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

The Northern Australia DX Club writes under date of 14th March 1950: "A serious threat to our mutual interests has arisen. The A.R.R.L. and other Amateur organisations have recommended to the F.C.C. (U.S.) that the present 20 metre Amateur band frequency allocation for phone be changed. This to become effective at the same time as the 1430-1450 Kc. for the 20 metre band is turned over to the commercials and when the Amateur is given the new 21 Mc. band. The change that has been submitted provides for the allotment of 1430-1450 Kc. for expansion of the present U.S. phone band. At first to a DX man this change might not be considered important, but think a moment and you will realize that the only way a c.w.-phone controversy, nor is it aimed at the A.R.R.L. or any other body. What Amateurs are occupying 1430-1450 Kc. and what will happen to these Amateurs? The Canadian Amateurs now occupy 50 Kc. either side of the U.S. phone band. This is for obvious reasons and it is expected that the change in this line of thought will take place; however, if the U.S. phone band is expanded so as to occupy the frequencies used by the Canadian DX Club, the Canadian DX Club's resources have it and logic would indicate that these stations will move to the present part of the c.w. allocation 14100-14150 Kc. All right you say, that part of the band is useless at times for c.w. because of foreign phone QRM. Now what about the foreign phone man now operating between 1400-1410 Kc. He will take that the only way he has and move into that part of the band 1400-1410 Kc. Now as a DX man, phone or c.w., can you tell what we are driving at? The QRM created by U.S. and Canadian phone and c.w. will be completely fill our only true DX band that no DX, phone or c.w., will be worked by anyone. What we do want is the following: (1) Talk to every DX man you can about it, over the air or in person; (2) Write to the DX man you think will be the link about it and have them write their views to A.R.R.L. at once; (3) at the very end. Remember those who want your band are busy."

The best example of QSL card ever sighted by this scribbling wretch is the following on million cards, is that of Joe Rodriguez, EA5BA. Joe's cards are all hand painted, each with a different background and each with a different color scheme and layout. The execution is masterly and yours truly would be proud to own one.

The full QTH of VK9MR, Max Rieper, ex-VK3AMR, is care D.C.A. Madang, New Guinea. Max is currently active on 14 Mc. and is scheduled to remain in New Guinea for three years, from May, 1950.

GRUO, of Keighley, Yorks, England, with printed "chasers" bursts out "Chesham"!

"Wherelin's That QSL!"

"Some moons ago, ole pal, ole pal, we had a QSO. Mayhap was short, mayhap twas long, as either contacts go. But whether it was long or short, I have this much to add:

It gave me just as big a kick as any I have had. It sent me something you should know, I sent you my QSL card many months ago. Perhaps the postman pinched it or perhaps I'm not quite sane. So in case you think I'm joking, I am sending this again. Again I ask you pal o' mine, deny no more my plea, just keep the head out of your feet and send that card to me."

The QSL Manager for the R.E.F., whose Bureau QTH is 72 Rue Marceau, Montreuil aux Bois (Seine), France, advises that owing to the large number of QSL dispatches received on which insufficient postage has been provided, all such airmail mail, in the future, be refused.

HLICB, "Art" Gramolini, ex-WIN8X, A.P.O. 404, care Postmaster, San Francisco, Cal., U.S.A., supplies the following interesting reading bit for the benefit of those desirous of contacting Korea: Operating hours are 0900 to 1500 G.M.T. daily. Frequencies used are 1400 and 14100 Kc. Art complains he has received but one card from VK and in future only intends to "QSL" on receipt of cards.

A par in these notes in the April issue to "Amateur Radio" quoted endorsements on cards for APB which had been returned by the VU QSL Bureau instead of being passed on to the AP Bureau. The Asst. Secretary of the A.I.C.C.I. has been the pur, has written stating, "We regret that owing to an oversight, the QSL cards for AP were returned to you with our 'return receipt' card. We are sorry for the basis of a letter which our QSL Manager proposed to write to you informing you that APB is now functioning as the official QSL Bureau for Pakistan so that cards could be sent to Pakistan and not via India. We are still handling cards for AP everywhere from all parts of the world, and we shall therefore be grateful if you will publish a correcting paragraph so that a misunderstanding may be avoided."

The motor vessel "Halgard" bound for the Gilbert Islands via Suva, called at Noumea en route, enabling the operating DX man, VK2ZQ, to meet Felix, VK3AC. Don has a sked on 7050 Kc. with VK2JAZK again evening.

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NEW SOUTH WALES

The monthly general meeting of the Division was held as usual at Science House, Gloucester St., Sydney, on 27th May, 1950. T. J. Corbin, 2YD, president of the N.S.W. Division, Mr. J. Corbin, 2YD, occupied the chair. There was a packed house and the members had a busy time hunting up chairs for the stragglers.

Among those present were VR3A recently of Fanning Island, VK2AGI (ex-VK4ZI), and VK2JQ of Narahara. VR3A left for New Guinea on a rush trip to Melbourne, but promised to repeat his experiences on Fanning Island at a subsequent gathering.

Dr. Allison, VK1RA, gave a lengthy and humorous recital of events occurring during his recent period of duty in Antarctica, where he was stationed on Heard Island.

Great interest was shown by members and Dr. Allison stated that it might be possible to show some of the area and give a further talk in the near future.

A vote of congratulations to Mr. J. Corbin, 2YD, on attaining the Presidency of this Division was moved by "Pop" Prehara, 2BM, and was carried by acclamation.

Dr. Leo McMahon was the proud recipient of a handsome silver cup presented by the outstanding work and great number of interesting articles written for "Amateur Radio" during the past year. Dr. McMahon, in his reply, pleaded for the gang to write more and more ideas or articles—to matter how big or how small.

It was moved that an attendance book shall be kept at the club hall for the use of the members. Voted a splendid idea—the motion was carried. The meeting was closed at 10.45 p.m.

WESTERN SUBURBS

Heard 3WD flat out working some South Americans on 20 metre phone recently. 20Q is tickled pink with his new location at Custer Hill and has

a fine rotary beam in action which is currently knocking them over. Harry runs only 30 watts and soon hopes to be in the DX C.C. class. Nice going Harry! 2ATU is getting out of his shell, and is quite good quality phone on 40 metres. 2AER is back in form again after having had the painters at his house last year. What good news! 2AER is migrating to the bedroom into the garage and the shack into the house Max? Nice phone.

2ADQ has a half-wave folded dipole on 20 and runs 80 watts to an 813. Also runs 50 watts to the filament he laments. 2AT gets amongst the DX and still enjoys that Sunday morning ham. Charlie had a tough break recently when some miscreant spirited off his receiver. No news of 2TD since he got out last year. What good news on Ray! 2ATU having a new QTH and little space, is migrating to 144 and 288 Mc. very soon. 2YM had some portable work on 144 Mc. recently, whilst operating with Gladsville Radio Club on Mr. Givale's near Mittagong, 16th April. 2IT and 2ANF were with him and 2AH and 2AWZ were reported as having really solid signals from the Sydney area on 144 Mc.

NORTH COAST AND TABLELANDS

Sorry to miss out with last month's notes boys, but was away on holidays. The ear for the trip was fitted with an 8 ft. whip on the back bumper and with 200 watts to 2YU as second operator. VR3, VR4, VK7 and all parts of the DX were contacted with a No. 11. Skip was evident from 5 to 9 miles. On reaching Newcastle, we were directed to 2AHA's on the beach. Harold had arranged to see we met him of the boys and a good time was had by all.

The Gladsville Radio Club was visited and we met about 30 members and enjoyed the hospitality and lectures. We attended the Annual Meeting of the W.I.A. and the North Coast gang with the new Council every success, and I would mention that the W.I.A. and the Disposal Committee are doing for them. I may mention (although I might be sticking my neck out a little) that after visiting the various summer of the shack, that the country gang put it all over their city counterparts when it comes to home-built gear and clean and tidy shacks!

Conditions on 40 at night have been punk, 80 is improving and plenty of VK are active on 80 and 40. 2RY trying to contact Lismore on 8. 2AOM is active and trying to find out if he has any ham on his carrier—he will be heard. But nobody can. Clive's v.f.o. now. 2SL not very active, but building 80 bedside Tx for the winter nights. 2UC is now on 80 and 40. 2YU is now on 80 and 40. 2YU with 50 W and 2ADE. 2YG working plenty of DX with his four element beam 50 feet high and 200 watts for the phone DX. 2C-26 cards to hand and more to come. 2AFP leaving Casino station for Byron Bay, and hopes to get away from the QRM.

2ES QRO with 100 watts. 2ASF going well for next year's ear-bashing award. Very nice new 2PA started a comeback on 40 and 10. The salt

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 13th July, 1950. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with Secretary W.I.A., Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 10 a.m. to 4 p.m.), or the Class Manager on either of the above evenings.

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Free Data Sheets on Request

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Valves, new, boxed, RCA 834s, £1/8/- each. RCA 6U7Gs, 9/- each. 6C4s, 12/- each.

Limited number of the following Taylor Tubes: TZ20s, £2/10/- each; TB35s, £6/10/- each.

Type 11 Transceivers in fair condition, with power supplies, £9 each.

CRYSTALS, as illustrated, 40 or 80 mx., AT or BT cut. Accuracy 0.02% of your specified frequency, £2/12/6 each.

20 metre Zero Drift, £5 each.

Large, unmounted, 40 or 80 metre, £2 each.

Special and Commercial Crystals—Prices on application. Crystals re-ground, £1 each.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms: Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne; Prices Radio, 5-6 Angel Place, Sydney.

A.W.A. Split Stator Transmitting Condensers, high voltage, £2/15/- each.

Screw-type Neutralising Condensers (National type), suits all triode tubes, Polystyrene insulation, 19/6 ea.

Prompt delivery on all Country and Interstate Orders.

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Type	Freq. Range	Application	Price inc. Tax
MT15-75W Mod. Transformer	V.F. Classes AB1, AB2, B; Tubes 807s, 809s, 830Bs		£7 19 3
IT563-6 Input Transformer	V.F. Line to single grid 600 ohms/60,000 ohms + 23 V.U.		1 19 10
IT564-10	V.F. Mic. or line to single grid, 50 or 200 ohms/60,000 ohms + 23 V.U.		1 19 10
IT545-9 Driver Transformer	Full Turns Ratio 1.6-1 6F6, 42, 6V6, 45/6L6s, 807s AB2		2 15 11
IT570-9	V.F. " " 6, 5, 4-1 p.p. 2A3s/Class B 809s, etc.		2 17 4
IT571-9	V.F. " " 3, 2.5 2-1 p.p. 2A3s/Class B 800s, 801s, 830Bs, T20s, etc.		2 17 4
IT588-6	V.F. Single 807, p.p. 6V6s, p.p. 2A3s, etc./p.p. 807s Class B		2 1 6
PT1525-21 Filament Transformer	Two 866As 1,000 V. DC working		2 1 5
PT1371-8 Power Transformer	500, 750, 1,000 per side at 300 Ma.		6 8 1
Z983-22 Input Choke	20/5 H. at 30/300 Ma. 1,000 V. DC working		2 8 9
Z986-22 Filter	10 H. at 300 Ma. 1,000 V. DC working		2 11 6

All these items are obtainable from:—

Wm. Willis & Co., 428 Bourke St., Melb. (MU 2426); J. H. Magrath & Co., 208 Lt. Lonsdale St., Melb. (Central 3688).

A. & R. Electronic Equipment Co. Pty. Ltd.

378 ST. KILDA ROAD, MELBOURNE, C.1

Phones: MX 1159, MX 1150

Amateur Radio, July, 1950

58L has almost completed his converter and results so far are well up to expectations, although he is that busy in his off work hours racing the radio that he has not had time to get the ham Radio of course. There are also the flackies you little devil "Skinny." 58J is busy building gear but will not be on the air for some time yet. He is another one who is getting rich quick on the side. Look out that you and "Skinny" don't get into a tiff. 58K is getting on his feet. 58L has returned from the second best b.c. station in VK6 after a spot of relieving duties and I believe that every time that the boys up there answer their phone these days a feminine voice says, "Is that you, dear old 58L?" What has he got that he never had longer? What has he got that he never had longer? What has he got that he never had longer? relieving duties up there; that's what I say!

The May meeting showed a few of the rarest club signs getting an airing. Seen among an average gathering such comparative strangers as 6DH, 6RB, 6AP and 6HC. A new member in 6TY was approved and, together with old-timer 6AZ, was asked to take the place of 6BZ in the reception of items of business for the evening was a report from the new Contest Committee given by 6RU in the absence of the Chairman, 6DD. Jim dealt at some length with future contest activities in VK6 and will be able to advise a definite date when the contest will be conducted in the coming year. The first will be the popular 40 metre "Scramble" to be held on 25th June (the echoes should be just about dying down by the time you read this) and will be a programme covering all aspects of Amateur radio from 80 to 10 metres and on whether

The Dinner Committee reported favourable progress for the big event on 26 June (By now, come a memory, I hope it is a pleasant one, indicating the time of the being are for a good evening with better reports both from town and country members than in previous years). Trophies are to be awarded to the first three place-getters in the "Scramble." First will receive the 1950 President's Trophy which GKW assures me will be well worth the winning. Also allocated in this contest will be GJN's prize of one guinea for the best performance on a "mille-per-watt" basis.

I think I shall stick to Ham Radio as a hobby. Look how well the old-timers are wearing over the years. "Skipper" Schofield, 6WS, looking as bright and sprightly as ever, gave members an interesting talk on his recent trip around the Eastern States. Credit is due to whoever thought up the idea of putting the 20th Convention on the wire for the benefit of the States. The copy was run at the May meeting per medium of 6KW's recorder and gave an intimate and interesting insight to the convention. The quality and continuity were excellent and all of these were really "in the room." Taken, but P.R.

That grad-about mentioned last month's being in Albany, GRT, turned up at the meeting and took a keen interest in the proceedings. Where to next, Len? Could it be Cue at last? Before I go any further I must also take a bow, a bow out. This will be my last effort as I am handing over to GARS, Alice Smith, beginning next month. Alice will also handle the 6W1 broadcasts as soon as she can get the official gear rigged up at QTH. My reason? A change of occupation involving a possible change of QTH.

GFD has come back to 40 metres with a signal from Bunbury and has been renewing old acquaintances over the air. 6WZ is a pleased man these days with his new "Bummer" giving him a handy 40 watts. Not bad for d.c. mains! Harry has lately discovered a latent talent for gardening (or perhaps the XYL found it for you!) and his garden is beginning to benefit considerably. Another Ham who professes to derive pleasure from tilling the soil is 6XG, down Enterprise way.

Hams collect various types of junk in their pursuit of their favourite hobby, but one of the strangest has been heard on the other side of the pond. Selling and buying of burnt and broken old pieces of plate glass he had gathered and was sending along. Subtle inquiry revealed the use of handles as spacers on an antenna feed line. It's an idea! The plate glass took the place of the centre insulator, up till then a lowly oil-bottle! Who said the modern Ham was losing his inventiveness?

Remember the lost Ham of Geraldton, 6CN, who has been without power for months. Tired of waiting for promises to eventuate, Cyril is now investigating the possibilities of a battery operated

Seven megacycles is showing signs of its winter improvement these days with more and more stations appearing on the band. One station which really had the 40 metre regulars gasping was 6BW coming out of hibernation with a QRP v.f.o. and working up to Geraldton. Mick wasn't the only one to stage a comeback. 6SK was seen working on a nifty looking portable 7 Mc. set-up using a GAG push-pull oscillator with modulator complete.

QWH hasaken to the country touring business and I understand he turned up in Albany the other day. Also heard checking his rig on 40 was ERIC who now sports a good antenna for that band. "Good!" All this only as a fill for our "Mc-Sound"!! Another "Bamering" on the radio. GGU up at Boulder who swears by the rotary converter to provide the very necessary a.c. from the not-so-popular d.c. GFL still running a pair of 811s on ten, but Frank finds them a bit hard to drive. Well, I hope you all have (or had) a good time at the Dissem. This business of writing about events that have already been read after they occur, has its disadvantages!

REC downed Minding has been working steadily at his favourite hobby. Eric now has a fine new beam for ten metres and to go with it he has a turret switched transmitter. Spotted a 35 ft. tower in the backyard of 6JRW. Hope it's soon in a vertical position for 6JRW to beam down to two, Johnson and I. Heard 6AS, to establish the 6WV rig in his QTH so expect to hear more of Aleo on that band. If he is going to take over these notes, he will have to keep going on 40 anyway. Heard 6LW operating his portable rig from up Boulder Mountain. Heard quite a fair signal down into the Metropolitan area. Well, guess that's the issue so 73 to all.

The King's Hall, on 12th May, presented a very welcome sight by being the best attended meeting for some time. I suspect that quite a few came in to see the lecture, but I think it is probable that it will be necessary to water the lawn on Saturday. The lecture was Mr. Scowen from the airport at Westbury, who is a very experienced meteorologist, and is specifically designed to give food for thought for 144 MC predictions. To this end Mr. Scowen succeeded admirably and, even though we do not have the time to go into the details of what we do know what we are looking for on the weather charts and it will be most interesting to find out what he has to say about the weather man. We are very grateful to Mr. Scowen as indeed we are to all the lecturers who give up their time in an earnest endeavour to impart some of their knowledge to the members of the Club. It is on these occasions we have such large gatherings. Please keep it up. Incidentally, the weather is not so good today, but it is neither too hot nor raining all day—so final note.

Activities have been somewhat desultory this month, due possibly to our blanketly blank cold weather—if this is the best the gang on Macquarie Island can send up to us, I won't work a VKI again, or will I? Believe 7BQ has not been enjoying the best of health of late and trust that ere this is printed, his recovery is complete. 7XW seems to have deserted 7 Mc. and maintains a deep silence, to my ears anyway. Let's hear from you Chris, jungle the shibboleth something and hop aboard the Easter Eve night train.

TAM showed me blowing great chunks out of the ether around 7 M. way by print time as he tells me of 100 wats and an 813 and the mere erection of mast, etc. Even went to the trouble of showing me the 100 wats and the 813 and came back from his sojourn in the wide open spaces, his main impression being, I believe, the ease of erecting rhombics on all the decent DX spots. I'll bet that even then though the best conditions would be collected in the time of the day, he was breathing dirt threats against me for suggesting he borrow the goal posts from the football club for his antenna but, on looking through the sports column, they only seem to need the little ones

TFF seems to have successfully cleaned up the little troubles that beset us all at times and at my QTH the signal is OK. Keep it that way Peter and your feet won't get wet. 7DB still very QRL house-building and not very much time for Ham Radio, but it will keep. Don, Here, my single 807 became lonely so I gave it a mate, but it looks like incompatibility as they won't behave on 10 yet--ah well, maybe there's a lot to be said for single blessedness.

Our next meeting is scheduled for 14th July. I wonder if some kind bird would whisper that date into the shell like pink ear of our State QSL Manager. Oh yes! Be the end of para one. It was a beautiful, sunny, cloudless day!!!

WARNING TO AMATEURS

4 Sunbeam Ave., Croydon, N.S.W.
Editor "A.R." Sir,

I would like you to publish the following. On Tuesday night, 9/5/50, my shack was broken into and my Marconi B28 Receiver was stolen. Entry was gained by breaking away the fibre cement sheets near the ground. I would like to suggest that Hains line the inside of their shacks or screw hardwood battens every foot or so up from the ground. Several VK2 Hains that I know of have lost valuable gear in similar circumstances.

Description of the B28 receiver (No. 263887): size approximately 14" x 14" x 14" weight about 6 lb., slide rule dial, 0-1 Ma. S meter, 2 valves (10 on top 5186 noise suppressor underneath), 10 knob one on-off switch, and noise suppressor switch, frequency coverage 60 Kc. to 30 Mc. covered six bands. In fact it was a very f.h. receiver and I would appreciate it very much if someone could give me a line of it, as apparently commercially built receivers have a ready market and may be shipped interstate to be disposed of.

9d. per line, minimum 2/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—Eddystone "640" Receiver as new. £55. G. A. Turner, 6 Queen's Avenue, Ararat, Vic.

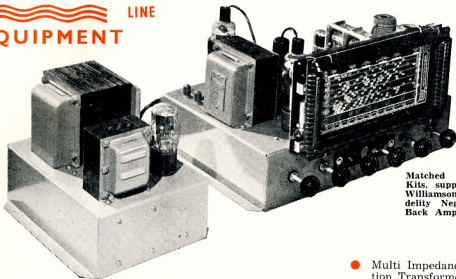
FOR SALE.—Input, Driver and Mod. Transformers from BC375E, 100 watts audio, £4 per set. L. T. Frith, 265 Clarendon Street, South Melb., Vic.

FOR SALE or Exchange.—£7/10/- each, two No. 109 Mark II. power supplies, 6 v. d.c. operation. A. S. Mather, 14 William St. Singleton N.S.W.

SELL.—R7 Receiver, power supply 240 v. a.c., 12 v. d.c. All coils, 140 Kc. 25 Mc. Appearance performance very good, £35. AT84A Transmitter Receiver, complete all valves and speaker, less xtals, working order like new, £10. R.C.A. 100 Kc. xtal and holder, £3. T10 Tuning Unit, new, 2/210/-, Philips No. 4 com. Receiver, 12-20 Mc. five bands, 240 and 6 v. input; good condition 12/10/-, 3API new 22/10/-, 832 and socket £2. 813 £2. Apply G. Augustesen, Kellett Street, Auchanflower, Brisbane. Qld. Phone: U 2640.

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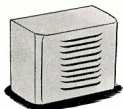
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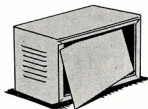
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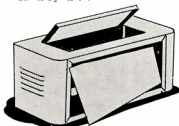
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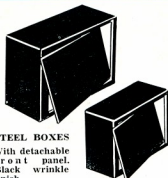


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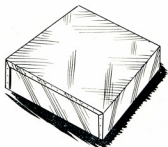
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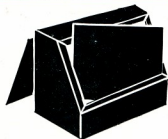
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